

F.No.10-29/2011-IA.III
Government of India
Ministry of Environment, Forest & Climate Change
(IA-III Section)

Indira Paryavaran Bhawan,
Jor Bagh Road,
New Delhi - 3

Dated: 28th October, 2015

To

The Director,
Directorate of Civil Aviation,
Govt. of Goa, Secretariat, Porvorim,
Goa - 403 521

Sub: 'Greenfield International Airport' at MOPA (Goa) by Directorate of Civil Aviation, Govt. of Goa - Environmental Clearance reg.

Sir,

This has reference to your application No. SAP/1/98/-Vol-VII (Part II) dated 20.05.2015 and subsequent letters dated 06.08.2015 and 08.10.2015, submitted in the above-mentioned proposal to this Ministry for grant of Environmental Clearance (EC) in term of the provisions of the Environment Impact Assessment (EIA) Notification, 2006 under the Environment (Protection), Act, 1986.

2. The proposal for **'Greenfield International Airport' at MOPA (Goa) by Directorate of Civil Aviation, Govt. of Goa** was considered by the Expert Appraisal Committee (EAC) in the Ministry for Infrastructure Development, Coastal Regulation Zone, Building/ Construction and Miscellaneous projects, in its meetings held on 24th - 26th June, 2015, 7th - 9th September, 2015 & 20th October, 2015.

3. The details of the project, as per the documents submitted by the project proponents (PP), and also as informed during the above said EAC meetings, are reported to be as under:-

(i) The project was accorded TOR vide letter No.10-29/2011-IA.III dated 01.06.2011 and extension of validity was granted on 29.05.2015.

(ii) The proposal involves development of Greenfield International Airport at MOPA of Tehsil Pernem (Goa) by Directorate of Civil Aviation, Govt. of Goa. The project is located at N 15^o44'30", E 73^o52'00".

(iii) The total area is 2271 acres. The land has been acquired based on approved compensation as per Govt. of Goa.

(iv) The project will be implemented in four phases. The components in Phase I of proposed Mopa Airport shall include one runway, with half parallel taxiway, three runway exits and Phase II includes one runway with full parallel building, security area and control points, GSE storage, parking, technical area, cargo, maintenance, general and business aviation areas, road network, rail connectivity and airport city.

(v) The airfield consists of one single runway with takeoff available distance of 3,750 meters and 60 meters of runway width to accommodate the super-jumbo A380 aircraft. The runway will be equipped with both elevated and inset lights for

at-all-time operations consisting of a CAT I approach system before both runway thresholds which comprises a row of lights along the extension of the runway axis, to a distance of 900 m. The area required for these activities including apron and hangars, is expected to be 15,300 m². The aircraft maintenance facilities are estimated to provide space for 1 hanger.

(vi) The water requirement in Phase I, Phase II, Phase III and Phase IV is 1 MLD, 1.8 MLD, 3 MLD and 6 MLD respectively. The source of water will be provided by Tillari Irrigation Canal of Irrigation Department, Dhargal Division.

(vii) The total solid waste generation will be 6.1 tonnes per day for Phase I and 18.2 tonnes per day for Phase IV. Solid waste collected will be disposed in disposal facility owned by Govt. of Goa. From airport, used oil, lubricants, electronic waste shall be generated and the same shall be disposed through SPCP authorized re-processor. Used batteries will be given to dealers as part of buy back arrangement.

(viii) The quantity of sewage generated in Phase I, Phase II, Phase III and Phase IV is 1 MLD, 1.5 MLD, 2.4 MLD & 5 MLD respectively and STP capacity is 1120 cum, 1500 cum, 2400 cum & 5000 cum respectively.

(ix) The sewage treatment plant will include tertiary treatment plant for re-using the treated effluent for irrigation of landscaping and garden areas. The aircraft waste will be chemically stabilized.

(x) The total power required for the proposed airport is 40 MW which will be sourced from 220/110 KV independent High Tension (HT) lines from Western Grid: Tivim/Colvale/ Mapusa substation and from Southern Grid of Karnataka/ Amona at Sesa Goa and Ponda Substation. Emergency/generator power supply shall be met from 5 numbers of Generators each having capacity of 2000 KW.

(xi) A Disaster Management Plan for various scenarios which includes the emergency control measures, plan of coordination and interaction with various agencies including administrative agencies, rescue and relief operations, training and awareness to minimize the severity of disasters has been prepared to plan for emergency response and to provide for resource mobilization.

(xii) The greenbelt development will be 33% of total area.

(xiii) Minimum 20% energy conservation measures will be adopted incorporating provisions for use of LED, star rated A.Cs. etc.

(xiv) **R&R issues:** 14 houses need to be displaced and R&R Policy of Govt. of Goa to be followed.

(xv) **Investment/Cost:** The total cost of the project is Rs. 3000 Crores.

(xvi) **Public Hearing** was conducted on 01.02.2015 at Simechen Adven, Mopa, Goa. The major issues raised during public hearing and responses sought from the project proponent related to employment opportunities.

(xvii) **Wildlife issues:** There are no National Parks, Wildlife Sanctuary, Biosphere Reserves found in the 10 km buffer zone.

(xviii) **Forest land:** No forest land is involved in the project.

(xix) There are no court cases/violations pending against the project.

4. The EAC in its meeting held on 20th October, 2015 has recommended the project for grant of Environmental Clearance. As per the recommendation of EAC, the Ministry of Environment, Forest & Climate Change hereby accords Environmental Clearance for the above-mentioned project '**Greenfield International Airport' at MOPA (Goa) by Directorate of Civil Aviation, Govt. of Goa** under the provisions of the EIA Notification, 2006 and amendments thereto and circulars issued thereon and subject to the compliance of the following specific and general conditions mentioned below:-

A. SPECIFIC CONDITIONS:

- (i) 'Consent to Establish' shall be obtained from State Pollution Control Board under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.
- (ii) The Project Proponent shall ensure availability of adequate land at the junction of the Mopa Airport road and Mumbai/Goa NH-17 for traffic circulation/management and to provide for all the traffic interchanges and proposed clover.
- (iii) The approach and exit roads to the Airport shall be got approved from the NHA and should be according to IRC norms.
- (iv) A perusal of the Topo sheet superimposed on the runway area indicates that the extreme end of the runway is covering the drainage area partly. The drainage area which is under the runway shall be channelized. The area between the parallel taxiway and runway shall be handled carefully to drain the water from the area in the outfall 2.
- (v) The PP shall submit the site clearance certificate from Directorate General of Civil Aviation (DGCA), before commencement of work at the project site.
- (vi) Sewage and other liquid effluent generated from the airport including from the existing terminal should be treated according to the norms laid down by the State Pollution Control Board. The treated sewage shall be recycled for flushing/ gardening. Proper Dual plumbing shall be provided.
- (vii) The solid waste generated shall be properly collected, segregated and disposed according to the provisions of Solid Waste (Management and Handling) Rules, 2000. The project proponent shall make provisions for drinking water at convenient places for passengers and also at the cafeterias as to reduce generation of solid wastes including PET bottles.
- (viii) Installation and operation of DG sets shall comply with the guidelines of CPCB.
- (ix) Parking provision shall be provided according to the National Building Code of India, 2005.
- (x) Water conservation fixtures shall be provided and water balance shall be maintained through verifiable metering for fresh raw water, recycled as well as rain water harvesting.
-  (xi) Necessary permission shall be obtained for drawing of ground water from competent authority prior to construction / operation of the project.
- (xii) The landuse around the Airport complex shall be regulated through a plan to control unauthorized development which may create problems in the operation of Airport.
- (xiii) The wastewater from hangers shall be tested for presence of heavy metals, if any, and shall be treated in STP. The treated waste water shall be used for gardening/ flushing.
- (xiv) Rain water harvesting shall be provided to recharge the ground water.

- (xv) Energy conservation to the extent of at least 20% shall be incorporated including water conservation (reuse/recycle, rain water harvesting and water efficient fixtures) and other green building practices for various buildings proposed within the airport complex. The PP shall consider ECBC Guidelines 2009 to achieve energy-efficiency. The energy conservation measures shall be subject to periodic verification by the competent Energy Conservation/ Efficiency authority in the State.
- (xvi) The project proponent shall prepare a detailed traffic management plan to take care of increased vehicular traffic which should also cover/ clearly delineate widening/ increasing the existing roads and associated road infrastructure approving/ installation of road safety features/ pedestrian facility/FOB/under passes etc (that can be done by carrying out road safety audits). Measures shall be taken to prevent encroachment along/ within the ROWs on connecting/ main arterial roads.
- (xvii) All the recommendations of the EMP shall be complied with in letter and spirit. All the mitigation measures submitted in the EIA report shall be prepared in a matrix format and the compliance for each mitigation plan shall be submitted to RO, MoEF&CC along with half yearly compliance report.
- (xviii) The responses/commitments made during public hearing shall be complied with in letter and spirit.
- (xix) Project Proponent shall install noise level display system. Noise level shall be monitored regularly in all seasons (different meteorological conditions) within the compound as well as nearby habitations and it shall be ensured that the noise level is within the prescribed limits. During night time the noise levels measured at the boundary shall be restricted to the permissible levels to comply with the prevalent regulations.
- (xx) The location of monitoring stations and monitoring of noise level during day and night shall be in accordance with the CPCB guidance document "Requirement and procedure for monitoring Ambient Noise Level due to aircraft" published on 25th June, 2008.
- (xxi) Construction spoils, including bituminous material and other hazardous materials, must not be allowed to contaminate watercourses and the dump sites for such material must be secured so that they should not leach into the ground water.
- (xxii) Any hazardous waste generated during construction phase, should be disposed off as per applicable rules and norms with necessary approval of the SPCB.
- (xxiii) Under the provisions of Environment (Protection) Act, 1986, legal action shall be initiated against the project proponent if it was found that construction of the project has been started without obtaining environmental clearance.
- (xxiv) The project proponent will set up separate environmental management cell for effective implementation of the stipulated environmental safeguards under the supervision of a Senior Executive.

(xxv) Corporate Environment Responsibility:

- a) The Company shall have a well laid down Environment Policy approved by the Board of Directors.
- b) The Environment Policy shall prescribe for standard operating process/procedures to bring into focus any infringements/ deviation/violation of the environmental or forest norms/ conditions.
- c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions shall be furnished.
- d) To have proper checks and balances, the company shall have a well laid down system of reporting of non-compliances/ violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.

B. GENERAL CONDITIONS:-

- (i) Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
- (ii) A First Aid Room will be provided in the project both during construction and operation of the project.
- (iii) All the topsoil excavated during construction activities should be stored for use in horticulture/landscape development within the project site.
- (iv) Disposal of muck during construction phase should not create any adverse effect on the neighbouring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.
- (v) The diesel generator sets to be used during construction phase should be low sulphur diesel type and should conform to Environment (Protection) Rules prescribed for air and noise emission standards. The diesel required for operating DG sets shall be stored in underground tanks and if required clearance from Chief Controller of Explosives shall be taken.
- (vi) Vehicles hired for bringing construction material to the site should be in good condition and should have a pollution check certificate and should conform to applicable air and noise emission standards and should be operated only during non-peak hours.
- (vii) Fly ash usage shall be explored as building material in the construction as per the provisions of Fly Ash Notification of September, 1999 and amended as on 27th August, 2003.
- (viii) Ready mixed concrete must be used in building construction.
- (ix) Storm water control and its re-use as per CGWB and BIS standards for various applications.
- (x) Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.

- (xi) Separation of grey and black water should be done by the use of dual plumbing line for separation of grey and black water.
- (xii) Use of glass may be reduced by upto 40% to reduce the electricity consumption and load on air-conditioning. If necessary, use high quality double glass with special reflective coating in windows.
- (xiii) Roof should meet prescriptive requirement as per Energy Conservation Building Code by using appropriate thermal insulation material to fulfil requirement.
- (xiv) Opaque wall should meet prescriptive requirement as per Energy Conservation Building Code which is proposed to be mandatory for all air-conditioned spaces while it is aspirational for non-air-conditioned spaces by use of appropriate thermal insulation material to fulfil requirement.
- (xv) The green belt of the adequate width and density preferably with local species along the periphery of the plot shall be raised so as to provide protection against particulates and noise.
- (xvi) Traffic congestion near the entry and exit points from the roads adjoining the proposed project site must be avoided. Parking should be fully internalized and no public space should be utilized.
- (xvii) The construction of the structures shall be undertaken as per the plans approved by the concerned local authorities/local administration, meticulously conforming to the existing local and central rules and regulations.
- (xviii) The construction material shall be obtained only from approved quarries. In case new quarries are to be opened, specific approvals from the competent authority shall be obtained in this regard.
- (xix) Adequate precautions shall be taken during transportation of the construction material so that it does not affect the environment adversely.
- (xx) Full support shall be extended to the officers of this Ministry/ Regional Office by the project proponent during inspection of the project for monitoring purposes by furnishing full details and action plan including action taken reports in respect of mitigation measures and other environmental protection activities.
- (xxi) A six-Monthly monitoring report shall need to be submitted by the project proponents to the Regional Office of this Ministry regarding the implementation of the stipulated conditions.
- (xxii) Ministry of Environment, Forest & Climate Change or any other competent authority may stipulate any additional conditions or modify the existing ones, if necessary in the interest of environment and the same shall be complied with.
- (xxiii) The Ministry reserves the right to revoke this clearance if any of the conditions stipulated are not complied with the satisfaction of the Ministry.

- (xxiv) In the event of a change in project profile or change in the implementation agency, a fresh reference shall be made to the Ministry of Environment, Forest & Climate Change.
- (xxv) The project proponents shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of land development work.
- (xxvi) A copy of the clearance letter shall be marked to concerned Panchayat/local NGO, if any, from whom any suggestion/ representation has been made received while processing the proposal.
- (xxvii) A copy of the environmental clearance letter shall also be displayed on the website of the concerned State Pollution Control Board. The EC letter shall also be displayed at the Regional Office, District Industries centre and Collector's Office/ Tehsildar's office for 30 days.
- (xxviii) The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year-wise expenditure shall be reported to this Ministry and its concerned Regional Office.
5. These stipulations would be enforced among others under the provisions of Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and EIA Notification 2006, including the amendments and rules made thereafter.
6. All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department, Forest Conservation Act, 1980 and Wildlife (Protection) Act, 1972 etc. shall be obtained, as applicable by project proponents from the respective competent authorities.
7. The project proponent shall advertise in at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded Environmental Clearance and copies of clearance letters are available with the State Pollution Control Board and may also be seen on the website of the Ministry of Environment, Forest & Climate Change at <http://www.envfor.nic.in>. The advertisement should be made within Seven days from the date of receipt of the Clearance letter and a copy of the same should be forwarded to the Regional Office of this Ministry.
8. This Clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs. Union of India in Writ Petition (Civil) No.460 of 2004 as may be applicable to this project.
9. Status of compliance to the various stipulated environmental conditions and environmental safeguards will be uploaded by the project proponent in its website.
10. Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

11. The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Offices of MoEF&CC by e-mail.



(Y. P. Singh)
Scientist 'D'

Copy to: -

1. The Secretary (Environment), Department of Science, Technology & Environment, Government of Goa, Panjim, Goa
2. The Chairman, CPCB, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi - 32
3. The Member Secretary, Goa State Pollution Control Board, Dempo Towers, EDC Plaza, Patta, Panaji - 01
4. Additional Principal Chief Conservator of Forests (C), Ministry of Environment, Forests and Climate Change, Regional Office (SZ), Kendriya Sadan, 4th Floor, E&F Wing, 17th Main Road, Koramangala II Block, Bangalore - 34
5. Guard File
6. Monitoring Cell



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